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Summary

Sustainable development remains elusive for much of Africa; the Johannesburg Plan of Implementation identifies actions for meeting this important challenge. It calls for stabilizing economic growth and critical investments in infrastructure, skills and research that will foster long-term development. It also calls for improved nutrition, health and education, irrespective of gender, and the strengthening of natural resource management and conservation of natural assets, as well as adaptation to challenges ahead, such as climate change.

Among the impediments to sustainable development, extreme poverty ranks first. Many Africans remain trapped in dire poverty, heavily dependent on a fragile natural resource base and vulnerable to economic and environmental shocks. Furthermore, the prevalence of armed conflicts and pandemic diseases such as malaria and HIV/AIDS disrupt African societies. Weak governance remains an issue in many countries, not least those enjoying earnings from high energy and mineral prices. Against this backdrop, African policymakers have been very active in recent years, opening up new prospects for the region.

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I. Introduction

1. The present report measures progress achieved with respect to goals and targets for Africa in Agenda 21, the Programme for the Further Implementation of Agenda 21 and especially in section VIII of the Johannesburg Plan of Implementation, and highlights the challenges and impediments to sustainable development in Africa. It benefited from the national reports submitted to the Commission on Sustainable Development secretariat, outcomes of regional implementation meetings and inputs from stakeholders and major groups.

II. Overview of progress on sustainable development in Africa

A. Poverty reduction, demographic growth and growth of gross domestic product

2. From the end of the 1970s until very recently, most African economies did not enjoy significant development. From 1970 to 2005, African populations increased by 121 per cent and 162 per cent, in North and sub-Saharan Africa respectively.[1] Average real per capita income in sub-Saharan Africa was virtually unchanged between 1980 ($589 in constant 2000 United States dollars) and 2005 ($569 in constant 2000 United States dollars), while industrial and agricultural productivity remained at very low levels. The sub-Saharan African share of world exports[2] shrank from 2.8 per cent to 1.4 per cent between 1980 and 2005. A variety of macroeconomic factors — including the legacy of import substitution within small domestic markets, terms-of-trade deterioration and the debt crisis, combined with demographic pressures, health crises and armed conflict — contributed to these unfavourable trends.

3. As a result of demographic pressures and economic difficulties, sub-Saharan Africa is not on track to achieve the Millennium Development Goals related to poverty and hunger. Although modest gains have been observed recently in reducing poverty rates, 41 per cent of the sub-Saharan African population (or roughly 300 million people) still live on one dollar a day or less.[3] A recent study[4] of extreme poverty finds that, of 162 million "ultra-poor" people in the world, who subsist on less than $0.50 a day, 121 million live in sub-Saharan Africa. Moreover, like the dollar-a-day poverty rate, the ultra-poverty rate has declined only marginally in sub-Saharan Africa since 1990.

4. In contrast with previous decades, African economies have performed well in the new millennium. In the past few years, sub-Saharan Africa's real gross domestic product (GDP) growth has been accelerating, averaging 5.9 per cent in 2005, 6.1 per cent in 2006 and an estimated 7.0 per cent in 2007.[5] Per capita GDP grew by almost 2 per cent per year from 2000 to 2005, whereas it had actually declined

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[1] Department of Economic and Social Affairs, Population Division, *World Population Prospects: The 2006 Revision*, population database.

[2] *World Development Indicators 2007*, World Bank.

[3] http://mdgs.un.org/unsd/mdg/Default.aspx.

[4] International Food Policy Research Institute, "The world's most deprived: characteristics and causes of extreme poverty and hunger", November 2007.

[5] Department of Economic and Social Affairs, *World Economic Situation and Prospects 2008*.

slightly during the 1990s. Africa's recent growth performance has been underpinned by improvement in macroeconomic management in many countries and strong global demand for key African export commodities, sustaining high export prices, especially for crude oil, metals and minerals. A reduction in the number of armed conflicts has also contributed to improved performance. In consequence, growth has accelerated in most countries of the continent; for many countries, recent years have seen the strongest growth performance since independence.

B. Health and education, including gender dimensions

5. Poverty and health conditions are intimately related. African populations are heavily burdened by poverty-related diseases, and debilitating diseases keep many people in extreme poverty. Sub-Saharan Africa is the only region of the world where life expectancy has fallen over recent decades, reaching levels below 40 years in Botswana, Lesotho, Zambia and Zimbabwe.[2] The child mortality rate is the highest in the world, with an average under-five mortality rate of 163 per 1,000 in 2005 — double South Asia's. The maternal mortality rate per 100,000 live births is 100 times as high in sub-Saharan Africa as in the developed regions of the world.[6] Malaria and HIV kill in Africa more than anywhere in the world, with some 800,000 children under the age of five dying each year of malaria from 2000 to 2003 and 2 million people dying from AIDS in 2006.[7]

6. In terms of education, African countries lag behind, but the recent efforts towards universal primary education have generated significant improvements. Primary-school enrolment increased from 57 per cent to 70 per cent between 1999 and 2005. The access of girls to school remains insufficient, leaving women with few skills to make them employable outside agriculture and the informal sector, and affecting family planning, education and other household investment decisions. If farming is excluded, women accounted for less than one third of salary earners in 2005.[3]

III. Globalization in Africa

A. International commodity trade and revenue management

7. As a result of the current boom in world commodity prices, most African countries have benefited from increased export revenues since 2000. Prices of agricultural raw materials and mineral ores and metals rose by 52 per cent and 178 per cent, respectively, from 2000 to 2006, leading to a near-doubling in the value of African exports. African oil exporters were particularly advantaged, with an increase of 128 per cent in the price of crude petroleum[8] contributing to strong economic growth. Some countries, such as Guinea and Mozambique, have seized the opportunity of higher commodity prices to diversify into higher value-added commodities. Hence, the production of aluminium in those countries grew from 340,000 to 959,000 tons between 2000 and 2004.

[6] http://www.unfpa.org/mothers/statistics.htm.

[7] World Health Organization, *Opportunities for Africa's Newborns*, 2006.

[8] *UNCTAD Commodity Yearbook* (2007).

8. However, the commodity boom has also posed economic challenges for some African countries. For commodity importers, especially oil importers, it negatively affects economic growth and external accounts. For some commodity exporters, the price boom has been associated with an excessive appreciation of exchange rates. As a result, their industrial performance has generally remained poor and the prospects for diversification limited. Besides, many African countries export commodities the prices of which have not increased or are still far from the levels they reached in previous decades. Hence, exporters of cotton, tobacco, tea, coffee, cocoa and phosphate rock have lagged behind.

9. The management of the export revenues resulting from this commodity boom can also pose challenges. Most African countries have limited capacities to absorb these additional revenues. In many cases, the surge in cash flow is not allocated to the development of education and social services or to the benefit of local industries. It can generate opportunities for corruption and revenue diversion to the benefit of a small number of people and to expenditure on low-priority but high-visibility building projects.[9]

10. Improving the management of these revenues is critical to ensure that the opportunity does not turn into a "natural resource curse". Greater corporate social and environmental responsibility (see Johannesburg Plan of Implementation, para. 62 (g)) and greater transparency in the management of financial flows still require urgent attention. In this regard, the African Mining Network, which was launched in 2005 under the auspices of the United Nations Conference on Trade and Development (UNCTAD) and the Economic Commission for Africa (ECA), and the Extractive Industries Transparency Initiative respond to the need for greater transparency through the collection and dissemination of critical information on oil and mineral revenues.

B. Export diversification, including high-value agriculture

11. Industrial diversification has been recognized as a priority for Africa, and has been identified as a goal by the international community (see Johannesburg Plan of Implementation, para. 62 (f)). It contributes to the development process as it insulates countries from the risks of mono-specialization. It helps developing countries to stabilize financial inflows and exchange rates. It partially reduces the impact of excessive price volatility on commodity markets. Furthermore, it can enable countries to capture a larger share in the value-added chain. Hence, countries initially specialized in a limited number of commodity exports can substantially increase their revenues when they diversify their activities into the industries that transform raw commodities into semi-finished and finished products.

12. Despite a sustained effort until the mid-1980s, African economies remain insufficiently diversified. Natural constraints, devastating conflicts, insufficient infrastructure, poor governance and weak technological capabilities have constituted major impediments to this diversification process. Except for a few countries, such as Mauritius and Tunisia, most rely on a limited number of products, generally classified as commodities. In 2005, agricultural raw materials, ores and metals and fuels represented 68 per cent of the region's exports, while these commodities

[9] ECA, *Economic Report on Africa*, 2007.

account for 33 per cent and 21 per cent of the exports of Latin American and Asian developing countries, respectively.[10]

13. The New Partnership for Africa's Development (NEPAD) has actively contributed to the reflection on African industrialization, emphasizing the importance of creating conditions to stimulate greater inward investment.[11] Similarly, ECA underscored the importance of diversification for Africa economies in its latest *Economic Report on Africa* (2007). The African Union Summit in Addis Ababa in January 2008 had as its main theme the industrialization of Africa.

C. Industrial productivity, business climate and competitiveness

14. Despite the core importance of industrialization in the development process, African industries have generally underperformed over the past few decades. From a high of 16.7 per cent in 1989, the share of manufacturing value added in sub-Saharan African GDP had fallen to 14 per cent in 2005; with mining, construction and utilities also included, the share of industrial value added in GDP went from 34.8 per cent in 1989 to 31.8 per cent in 2005. If South Africa is excluded, the share of sub-Saharan African industries in world industrial output fell from 0.79 per cent to 0.74 per cent over the period from 1990 to 2002.[2]

15. Although it is difficult to estimate precisely the relative importance of different business climate factors, it appears that common major bottlenecks in Africa are macroeconomic instability, insufficient access to credit, scant foreign direct investment (FDI) inflows and inadequate governance. These bottlenecks, added to structural factors such as unfavourable climatic and geographic conditions as well as the underdevelopment of major infrastructure, have increased production costs and reduced African competitiveness.

16. Development through industrialization has been a long-term objective for many African countries, multilateral organizations and donors. Among the recent experiences of industrialization in Africa, the strategy of Tunisia deserves special mention, as it has achieved steady industrial growth rates despite limited endowments. At the multilateral level, the role of NEPAD is to be highlighted. In line with the NEPAD strategy for sustainable industrial development, the United Nations Industrial Development Organization has launched the African Productive Capacity Initiative, involving numerous technical cooperation projects.

IV. Protecting and managing the natural resource base

A. Forests

17. African forests account for 17 per cent of global forest cover. Forests are crucial for livelihoods as well as economic development in Africa. They contribute to social welfare through various valuable functions, such as supplying timber, non-timber products, energy, food, medicines and grazing; water and soil retention; regulation of the flow and quality of water; supporting the biodiversity of habitats;

[10] UNCTAD, *Handbook of Statistics*, 2006.

[11] See "A summary of NEPAD action plans", http://www.nepad.org/2005/files/documents/41.pdf.

and protection of wetlands and coastal areas. They are also closely associated with traditions and cultures. The forest sector accounts for 6 per cent of GDP on the African continent, which is the highest rate in the world.[12] Most rural households rely on wood fuel to cover their energy needs in sub-Saharan Africa.

18. Owing to increased wood collection, the clearing of forests for agriculture, excessive timber extraction, urbanization and conflicts, Africa is undergoing a severe process of deforestation. Resources allocated to forestry education and management are declining. Only 5 per cent of forests enjoy protected status. From 1990 to 2000, deforestation took place at a rate of 0.8 per cent per year, versus 0.2 per cent at the global level. The Democratic Republic of the Congo, the Sudan and Zambia accounted for about 44 per cent of this deforestation process.[13]

19. Among the actions to be considered to slow deforestation, the strengthening of national plans and programmes related to forests is crucial, as it permits the integration of all the stakeholders involved in the management and monitoring of forests. The strengthening of initiatives such as the Congo Basin Forest Partnership,[14] initiated by the United States of America to promote forest conservation while supporting livelihoods, as well as the forest programme of the NEPAD Environmental Action Plan, could contribute to slowing and eventually reversing this trend.

B. Biodiversity

20. Africa has a wealth of biodiversity. A quarter of mammal species and a fifth of bird and plant species are found on the continent, with a large number of them endemic to Africa. In addition, its wealth of fish species, numbering 2,000 or more, is thought to be unmatched anywhere else in the world. Most sub-Saharan species of plants and vertebrates are concentrated in a limited portion of the region. If well managed, this exceptional richness offers opportunities for improving human well-being.

21. In comparison with other regions of the world, African biodiversity has been well conserved. However, it is increasingly under threat as a result of the loss and fragmentation of natural habitat, as well as the overexploitation of resources. Pressures arise from the conversion of near-natural vegetation to permanent croplands, the replacement of forest by pastures, the expansion of human habitats, the alteration of river habitats and the pollution of water by various industries. Disruption of ecosystems through, inter alia, overlogging and overfishing (e.g., in areas such as Lake Victoria) reduces the resilience of many species, making the recovery of ecosystems difficult, if not impossible.

22. While Africa still has an important store of biodiversity, it has to cope with significant challenges regarding the monitoring and management of the various living species to which it is home. The improvement of research is crucial in order to determine sustainable extraction rates and practices. Furthermore, the reinforcement of national and regional institutions in charge of the management of these natural resources is a key component of the strategy to conserve biodiversity

[12] NEPAD, *Action Plan for the Environment Initiative*, 2003.
[13] UNEP, *African Environment Outlook*, 2007.
[14] http://www.cbfp.org/en/index.htm.

in the region, as is active involvement in multilateral environmental agreements. Similarly, local communities, including mountain communities, play an important role in preserving biodiversity, as recalled in the Johannesburg Plan of Implementation.

C. Water, drought and desertification

23. Africa is endowed with abundant water resources, which account for about 10 per cent of global freshwater endowments. There are over 50 internationally shared rivers and basins on the continent. Africa is relatively poor in groundwater, which represents only 15 per cent of its water resources, and in wetlands. Fourteen African countries, mostly located in the Sahel region and the Horn of Africa, experience water stress (less than 1,700 m^3 per capita per year) or water scarcity (less than 1,000 m^3 per capita per year).[13]

24. Freshwater is a key component of natural habitat and a necessary input for household consumption, industries, agriculture, hydropower generation, fisheries and tourism. Thus, water management is crucial for African development. As a result of climate change and variability, population growth, environmental degradation and resource mismanagement, access to freshwater is worsening in the region. Water bodies are being depleted and degraded due to overextraction, insufficient waste and wastewater management, industrial chemical releases and run-off of fertilizers and pesticides. Overgrazing and drought cause severe soil erosion and can lead eventually to desertification.

25. In line with paragraph 63 of the Johannesburg Plan of Implementation, African Governments have undertaken various initiatives with the support of the international community. Every African country has ratified the United Nations Convention to Combat Desertification, while numerous projects have been conducted on the ground to improve water governance, increase access to drinking water and limit the impact of human activities on bodies of water. In Zambia, the World Wide Fund for Nature, the Government and local communities have managed to restore a more natural flow regime below the Itezhi-Tezhi Dam to restore livelihoods and the environment.

D. Climate change

26. The climate in Africa is among the most variable in the world, partly on account of the continent's large size. According to the Intergovernmental Panel on Climate Change,[15] mean surface temperature in Africa is likely to increase more than in the rest of the world, with an estimated increase of 3 to 4 degrees Celsius by the period from 2080 2099 under the A1B scenario.[16] Drier regions are expected to warm more than the moister tropics. In 2050, annual rainfall is projected to have decreased in much of North Africa, the northern Sahara and Southern Africa and increased in tropical West and East Africa.

[15] Fourth assessment report, 2007.

[16] The A1 storylines and scenarios describe a future of very rapid economic growth, global population that peaks in mid-century and declines thereafter, and the rapid introduction of new and more efficient technologies.

27. The consequences of climate change are likely to be dramatic for the continent. The region is expected to suffer from a drop in agricultural productivity, leading to deteriorating food security conditions and increased risk of hunger. The projected agricultural productivity decline attributable to climate change in Africa could be in the 17 to 28 per cent range by 2080.[17] Additionally, climate change could adversely affect Africa through a rise in sea level. The number of people at risk from coastal flooding in Africa could rise from 1 million at present to 70 million in 2080.[13] As several large cities lie on or very close to the coast, economic values at risk can represent a significant percentage of national GDP, underlining the socio-economic vulnerability of African coastal States.

28. Access to freshwater is also expected to diminish. The majority of glaciers in Africa are under threat, and as precipitation becomes more erratic, natural run-off, river flow and water availability will also become more erratic. Besides, the consequences of climate change for health are likely to be overwhelmingly negative. Owing to poverty, armed conflicts, population displacements and underdevelopment of health infrastructure, African populations are particularly vulnerable to a number of climate-related diseases, such as Rift Valley fever and cholera.

V. Sustainable tourism

29. African countries have seen a large increase in the number of tourists they receive. In less than a quarter of century, their number has grown more than fourfold. Many African Governments have identified the potential of international tourism, which brought about $21.7 billion in revenue to African countries in 2005,[18] and promoting sustainable tourism development in Africa is a goal set out in paragraph 43 of the Johannesburg Plan of Implementation.

A. Conservation areas to promote ecotourism

30. A conservation area, which is a tract of land that has been awarded protected status, a nature reserve or a park, can sustain traditional livelihoods of local communities while fostering natural resource management. It can also attract tourists and generate income for the local communities and the Government.

31. Historically, the creation of conservation areas has constituted part of the national strategy of countries such as Kenya, South Africa and Zimbabwe to expand tourism activity. South Africa created its first national park, Kruger National Park, in 1926. The Government has steadily expanded the area of national parks, to 3.7 million hectares at present. Ethiopia, Uganda and the United Republic Tanzania, where tourism receipts represent a major source of income, exceeding 25 per cent of the total value of exports,[2] have followed this example.

[17] W. R. Cline, *Global Warming and Agriculture: Impact Estimates by Country* (Peterson Institute for International Economics, Washington, D.C., 2007).

[18] World Tourism Organization, *Tourism Highlights 2007*.

B. Respecting local traditions and cultures and enhancing local community benefits from sustainable tourism

32. The Johannesburg Plan of Implementation emphasizes in paragraph 70 the role tourism can play in the protection of wildlife and the sustainable development of local communities living in areas of great tourism potential. Through the generation of local employment and equitable schemes for rewarding habitat conservation and wildlife protection, these communities can share in the benefits from wildlife-related tourism. The financial inflows contribute to local welfare, limiting urban migration pressures and safeguarding traditional cultures.

33. In Africa, there are many experiences that highlight the positive impact of nature-based tourism on traditional communities. New forms of sustainable tourism, such as community-based tourism, have gradually expanded. Tourists can immerse themselves in the day-to-day lives of local and indigenous people while helping them to preserve their environment and cultural heritage. For example, in a Ugandan village called Buhoma, the local communities have managed to develop a high-quality community tourism product for tourists who visit Bwindi Impenetrable National Park.

34. The role of African Governments in sustainable community-based tourism is crucial, as an unstable economy and poor business environment constitute barriers to its development. Governments also need to overcome the constraints presented by insufficient physical infrastructure and education. Therefore, the promotion of community-based tourism is an integral part of a larger national strategy that encompasses other dimensions of sustainability, such as education and public health improvements.

C. Support for the conservation of Africa's biological diversity

35. Tourism has two contrary effects on the environment and biodiversity. On the one hand, the ecological footprint of this activity, which is estimated to represent 11 per cent of world GDP and to have involved international travel by 37.3 million tourists visiting Africa alone in 2005,[18] is significant. Also, the tourism industry and its associated infrastructure tend to be concentrated in biodiversity hotspots, where the variety of species is the highest. On the other hand, tourism can foster environmental preservation, especially if it is ecotourism. It may induce a better management of biodiversity through the provision of economic incentives to local communities and to Governments to protect habitat and wildlife. It may also substitute for more environmentally damaging activities.

36. African Governments have been active in the protection of biodiversity from an excess of tourism development. The creation of numerous parks and protected areas has illustrated the determination of countries to maintain their natural inheritance. Multilateral organizations have provided support to such initiatives, as illustrated by the technical and advisory activities of the World Tourism Organization in Africa. The United Nations Environment Programme (UNEP) has developed a useful methodology to assess the ecological footprint of tourism in the region.

VI. Infrastructure development

A. Transportation links

37. Transportation services contribute to development, and their improvement will be essential for Africa to achieve sustainable development and achieve the Millennium Development Goals. Access to transport permits mobility and favours commerce as well as education and health. It is also an important determinant of competitiveness, particularly in landlocked countries.

38. In many African countries, transport access rates and network quality are low by any standard. Only 12 per cent of sub-Saharan African roads are paved, versus 23 per cent in Latin America and the Caribbean, for example.[2] Fifteen African countries that have among the least developed road networks are landlocked. As a result, transportation costs are very high in the region. The median transport costs for trade within Africa are twice those for East and South Asia, accounting for a significant part of the poor export performances of African countries. Access to transport services appears to be particularly restricted in rural areas, contributing to the economic isolation and vulnerability of local communities.

39. In order to fill the transportation gap, many African countries have reformed the management of their infrastructure, with the creation of independent road agencies, for example. Transport activities have largely been deregulated, and related policies have been modified to permit market-determined decisions, enterprise autonomy and private participation. Furthermore, a more holistic approach has been implemented in transport management, with an effort to anchor transport sector strategies in poverty reduction programmes.

B. Energy infrastructure

40. The Johannesburg Plan of Implementation underlines the strategic role of energy infrastructure projects, calling for secure energy access for at least 35 per cent of the African population within 20 years, especially in rural areas. The social rate of return on energy infrastructure projects is very high — the highest among all types of World Bank infrastructure projects. Furthermore, energy access plays a major role in the industrialization process, as most primary transformation industries — steel, aluminium, paper, fertilizer — are energy-intensive activities.

41. Access to energy remains seriously deficient in sub-Saharan Africa. The electricity access rate as of 2005 was only 26 per cent overall and only 8 per cent for rural households.[19] Energy production tends to be costly, relying heavily on fossil fuels (about 80 per cent of electricity generation), despite significant untapped hydroelectric and other renewable energy potential. African power stations are often old, inefficient and in disrepair, leading to recurrent power shortages.

42. As energy shortages have become a major brake on development, African countries have initiated various projects at the national and continental levels. In its Infrastructure Short-Term Action Plan, NEPAD has identified 7 projects related to energy distribution and production among its top 20 priorities. These priorities, which are being translated into specific projects, encompass the creation of power

[19] International Energy Agency, *World Energy Outlook 2006*.

pools, the reinforcement of power interconnection and oil and gas pipelines, and the strengthening of regional cooperation through the African Energy Commission. Solar thermal and other forms of power based on renewable sources also have considerable potential in parts of Africa. At the community level, initiatives such as the Cows to Kilowatt project in Nigeria, demonstrate how small-scale initiatives can be developed to offset energy shortage: through the utilization of the methane produced by the degradation of abattoir wastes, the city of Ibadan and its partners expect to provide energy for 2,000 households in the neighbourhood. As a result of similar initiatives, progress has been made in access for the poor to energy for cooking and heating, as well as in electricity-grid interconnection.

C. Water storage and conveyance

43. Water management is a critical determinant of human settlements in many African countries. Most of Africa's continental landmass is classified as arid or semi-arid, and 60 per cent of the population lives in zones with mean annual run-off of 300 mm or less.[20] As a result, water scarcity affects African people in their daily existence, having tremendous consequences in terms of health and a significant economic impact, especially on agricultural productivity and hydroelectricity production.

44. Owing to the limited number of dams and deep wells, the capacity of local populations to collect and store water is restricted. Despite considerable resources, especially in the Congo River Basin, ECA estimates that less than 5 per cent of economically feasible hydropower potential is utilized. Besides, sanitation remains inadequate, causing illnesses and deaths, particularly among African children. The lack of water infrastructure also has major consequences for African agriculture.

45. The development of water infrastructure has been a priority of most African countries over recent decades. Many multilateral organizations have been involved in working towards the achievement of the Millennium Development Goals on water access. In Ethiopia, for example, the World Bank has launched the Ethiopia Water Supply and Sanitation Project, which is aimed at improving roughly 5,500 rural water-supply schemes serving 2 million people, and about 75 town water supplies serving 1 million people.

D. Digital divide

46. Telecommunications development offers tremendous opportunities in Africa. It facilitates technological diffusion, favours market transparency and reduces distance barriers between people. Recent innovations in the field of information technology (IT), particularly in Internet and mobile communications, offer the prospect of technological leapfrogging by African countries.

47. IT infrastructure remains underdeveloped in the region, as the penetration rate of telecommunications is only about 9 per cent and of the Internet only about 3 per cent.[21] If South Africa is excluded the penetration rates are much lower. However,

[20] Vörösmarty C. J., Douglas E. M., Green P. A., and Revenga C., "Geospatial indicators of emerging water stress: an application to Africa", 2005.

[21] http://www.internetworldstats.com/stats.htm.

the trends are favourable, with a large effort to increase equipment availability and improve telecommunications infrastructure in most African countries. From 2000 to 2004, the number of mobile phones per 1,000 inhabitants grew roughly fourfold, while the number of personal computers rose by 83 per cent and Internet usage in sub-Saharan Africa had increased steeply to about 24 million people as of 2005.[22]

48. African Governments have been very active in the reform of the telecommunications industry. Many operators have been privatized and the regulation of the sector has been reformed. Multilateral and regional organizations have been involved in the process, as shown by the effort of NEPAD to harmonize the various African IT policy and regulatory frameworks. Also, the private sector is playing a key role in the dissemination of IT, not only by providing the needed investments but also by developing solutions specific to the African context. Hence, major telecommunications service providers have developed microfinance services based on cell phone technology, which has proved very useful for the poorest in Africa, especially in the shanty towns and villages.

VII. Agriculture

A. Agricultural performance and food security

49. Agriculture remains an important economic sector in much of sub-Saharan Africa. It provides 57 per cent of all employment, though only about 17 per cent of GDP.[23] It also conditions the whole development process, as gains in agricultural productivity imply more labour supply and more effective demand for other industries. Furthermore, agricultural productivity determines the level of food security, which has major implications in terms of nutrition and health, peace and well-being.

50. However, African agriculture remains very fragile. Low soil fertility, scarce irrigation, poor rural infrastructure, insufficient rural finance and recurrent droughts are among the major challenges facing sub-Saharan African agriculture. As a result, food insecurity remains a major concern, with 24 sub-Saharan African countries requiring external food assistance at the beginning of 2007.[24] Between the period 1990-92 and the period 2001-03, the number of undernourished people increased by 37 million in sub-Saharan Africa, with an average under nourishment prevalence rate of 32 per cent in the latter period.[25]

51. Given the importance of agriculture in African development, agricultural modernization has been recognized as a top priority by the international community. The Johannesburg Plan of Implementation stressed in paragraph 67 the crucial role of agricultural productivity and sustainable production in achieving food security in Africa. The rate of real agricultural output growth in sub-Saharan Africa increased markedly in recent years, from just over 2 per cent per year in the 1980s to about 3.75 per cent from 2000 to 2005.[2] At the regional level, ambitious projects have

[22] World Bank Africa Database, 2005.

[23] Statement of the Director-General to the twenty-fourth FAO regional conference for Africa, 2006.

[24] FAO, *Crop Prospects and Food Situation*, 2007.

[25] FAO, *State of Food and Agriculture 2005*.

been launched, as illustrated by decisions of the Abuja Fertilizer Summit and the commitment by African Governments to spend a minimum of 15 per cent of their annual budgets on agriculture.

B. Arable land, agricultural potential and the role of agricultural research and development and extension services

52. African soils are diverse but characterized by limited fertility. Only 45 per cent of the lands is arable, 16 per cent has soil of high quality and about 13 per cent has soil of medium quality. Likewise, new high-yielding crop varieties are scarce, though the diffusion of available ones has begun to accelerate. Genetically modified crops are currently grown commercially only in South Africa.

53. Poverty and demographic pressures have played a major role in the current state of soils and land in Africa. As fertilizers and mechanization remain out of reach for many African farmers, traditional cultivation techniques are still in use. Farmers tend to clear land, grow a few crops and then move on to clear more land, leaving the land fallow to regain fertility. However, owing to growing food demand, the fallow period has grown shorter and the period of cultivation longer, which thins soils and reduces fertility. Insufficient irrigation has worsened the situation, leading to an even more extensive exploitation of soils.[26]

54. The current pattern of agricultural development in Africa is unsustainable. A large share of the population remains undernourished, and the degradation of land and ecosystems worsens food insecurity. Therefore, easing the access of African farmers to improved crop varieties, fertilizers and, where feasible, irrigation deserves priority attention. Fertilizers alone are estimated to have contributed as much as 50 per cent of the yield growth in Asia during the Green Revolution.[27] Improved tillage and land management practices can also help halt land degradation.

C. Land tenure and rural credit availability, including gender equity

55. The way property rights are defined and enforced is crucial to the way land and other natural resources are utilized. There is an incentive for farmers to invest in land if land tenure is clearly defined and ownership or use rights are legally protected. Likewise, access to credit is an essential determinant of agricultural investments. Restricted access does not allow farmers to undertake needed investments to boost productivity.

56. Land tenure takes diverse forms in Africa. However, many countries are still characterized by land tenure arrangements in which property rights are not clearly defined. This tends to hamper agricultural credit by preventing the use of land as collateral. Furthermore, customary land tenure arrangements generally restrict the access of women to land ownership, even when they may be the principal farm managers in the household. More positively, land ownership in sub-Saharan Africa tends to be more equitably distributed than, for example, in South Asia. Thus, if a

[26] Meanwhile, fertilizer use per hectare in Africa is less than 10 per cent of the world average.

[27] W. D. Hopper, "Indian agriculture and fertilizer: an outsider's observations", keynote address to the Fertilizer Association of India seminar on fertilizer and agriculture, New Delhi, 1993.

green revolution should take hold in Africa in the near future, the benefits could be quite widely shared.

57. Beyond ownership of land and other physical assets, access to formal rural credit depends on the presence of financial institutions in rural areas and their use for savings by rural households. In Uganda, households without savings accounts were significantly less likely to apply for credit than those with accounts.[28] Largely on account of low savings rates and low utilization of the formal banking system, credit institutions are underfunded and cannot support the modernization of agricultural production.

58. The reform of land tenure is likely to have the greatest impact when pursued in association with the modernization of the financial system in rural areas. In this context, expanded and strengthened microcredit institutions can provide an effective support to agriculture in the poorest areas and can contribute to greater gender equity.

D. Livestock and fisheries development programmes

59. Livestock and fisheries are major sources of food for African people. The livestock subsector accounts for more than half of the agricultural capital stock, while fishing activities employ roughly 2.7 million people on either a part-time or a full-time basis.[29] Livestock and fish provide a large share of the protein, minerals, vitamins and micronutrients in African diets.

60. As a result of economic and environmental constraints, fishing and livestock raising have failed to keep up with the growing African population. For example, per capita fish consumption over the last two decades has decreased by an average of 2.1 kg per person per year, and marine fish imports have increased by 177 per cent during the same period.[29] Also, between 1990 and 2005 per capita meat production fell in 30 out of 47 sub-Saharan African countries for which data of the Food and Agriculture Organization of the United Nations (FAO) are available.[30] As underlined in the Comprehensive Africa Agriculture Development Programme, constraints are multiple, ranging from technical issues to policy factors. Excessive government regulation, insufficient research efforts and animal health services, and poor market infrastructure all contribute to the stagnation of production.

61. In order to stimulate growth in fishing and livestock production, African countries have undertaken a number of initiatives. They have requested that the NEPAD Steering Committee undertake a comprehensive review of the potentialities and constraints specific to those sectors. Dialogue among the various stakeholders of the fishing industry has been promoted through initiatives such as the 10-year Fish for All initiative, launched in 2002, and the donor-supported, FAO-executed Sustainable Fisheries Livelihood Programme in West Africa.

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[28] I. Kasirye, "Rural credit markets in Uganda: evidence from the 2005/6 national household survey", presented at African Economic Conference, September 2007.

[29] FAO, *State of World Aquaculture 2006*.

[30] Calculated from FAO production database and World Development Indicators population statistics.

VIII. Conflict management and peacebuilding

A. Incidence and impact of armed conflict in Africa

62. Many African countries have been plagued by wars since their independence. Despite a decrease in the number of countries involved and casualties suffered, the continent is still a place where armed conflicts are frequent and devastating. In 2004, more than 14,000 Africans lost their lives as a result of armed conflicts.

63. While the causes of conflicts are diverse in nature, they all adversely affect the development process. They generally result in population displacement and the disruption of public services. Compared to peaceful African countries, African countries in armed conflict have, on average, a 50 per cent higher rate of infant mortality; 15 per cent more undernourished people; life expectancy that is five years shorter; 20 per cent more adult illiteracy; 2.5 times fewer doctors per patient; and 12.4 per cent less food per person.[31]

64. In the context of armed conflicts, the international community is involved in providing humanitarian relief to civilians. Neighbouring countries and regions are often committed to host displaced populations. International organizations, especially the Office of the United Nations High Commissioner for Refugees (UNHCR), play a critical role in structuring and coordinating the support for these populations. At the end of 2006, UNHCR was providing support to 5.4 million internally displaced people in Africa.[32]

B. Building peace

65. The Johannesburg Plan of Implementation emphasizes in paragraph 65 that conflicts in Africa have hindered efforts for sustainable development. Armed conflicts inhibit African development, as they undermine health and education, destabilize democratic institutions and cause economic contraction. Vigorous post-conflict reconstruction is crucial to consolidating peace. This generally requires substantial improvements in governance, with greater respect for people's rights and a better integration of all stakeholders in decision-making. Similarly, efficient economic governance plays a critical role in peacebuilding, notably in the form of efficient management and equitable distribution of public revenues from natural resources.

66. An institutional framework for peace management is taking shape under the auspices of the African Union. In this framework, the notion of common threats is defined, encompassing inter-State and intra-State conflicts. The principles for action are specified, including the key principle of the indivisibility of African security. The responsibility for the implementation of security policy and actions lies exclusively with the Peace and Security Council of the African Union, which approaches peacemaking and peacebuilding through mediation, consultation and dialogue.

[31] Oxfam, 2007, "Africa's missing billions".

[32] UNHCR, statistical online population database, http://www.unhcr.org/statistics/45c063a82.html.

IX. Regional and international community engagement

A. African trade policy concerns and priorities

67. In 2001, the member States of the World Trade Organization agreed to launch the Doha Development Round. While previous rounds of negotiations concerned mostly developed countries, the Doha round could have major implications for African countries. The latter expect that agricultural liberalization, with the elimination of export subsidies and dramatic cuts in domestic supports and tariff barriers, would give a significant impetus to their development.

68. Yet African countries have concerns about the negotiations. With trade liberalization, they will lose part of the benefits associated with preferential tariffs in developed-country markets. More importantly, they often face supply-side constraints and difficulties in complying with the sanitary and technical regulations applied on international markets. Besides, the liberalization of their own markets could have a significant fiscal impact, as most of their public resources come from tariff revenues.

69. African economies are engaged in the bilateral liberalization of their trade with European countries, which grant them preferential tariffs. This process, which should result in the signature of free trade agreements between the European Union and the African countries as soon as 2008, may not have a positive impact on African economies. As most African imports come from developed countries, such bilateral liberalization is likely to reduce significantly public revenues in Africa while increasing the competition from firms located in the developed countries.

B. Foreign direct investment and indebtedness

70. Capital inflows play a major role in the development process. Coupled with a solid level of national saving, they permit the capital accumulation needed for industrialization. However, African economies attract a relatively small share of global FDI, less than 3 per cent in 2006.[33] Besides, FDI is allocated mostly to commodity-extracting industries and more rarely to utilities and manufacturing.

71. In the meantime, many African countries have been trapped in a vicious circle of indebtedness. Confronted with insufficient tax revenues and local saving and erratic commodity prices, some African Governments have had to rely on external borrowing to fund their budgets. This proved unsustainable after the mid-1980s, when real interest rates rose steeply and international banks reduced drastically their lending to African Governments.

72. The balances of payments of African countries have significantly improved over the past few years[34] thanks to a more favourable macroeconomic context, improved governance and the renewed interest of developed country investors in developing country markets, in particular in Africa. Many African Governments

[33] In 2006, African economies attracted $38.8 billion out of $1,230 billion according to UNCTAD.

[34] The external current account deficit (excluding grants) was reduced from 3.6 per cent (1997-2002) to 0.1 per cent of GDP (2006) in sub-Saharan Africa (IMF).

have reformed their banking industries and investment codes.[35] At the multilateral level, various initiatives were taken to make African indebtedness more sustainable. The Heavily Indebted Poor Countries Initiative was initiated by the International Monetary Fund (IMF) and the World Bank in 1996, providing debt relief and low-interest loans to reduce external debt repayments to sustainable levels.

C. Development cooperation

73. International cooperation involves a number of partners — Governments, civil society and international organizations — and affects many dimensions of Africa's sustainable development. It tends to make up for a shortage of financial resources, funding long-term projects that can be vital for the poorest African economies. Investments in infrastructure and utilities are hence priority projects for international cooperation in Africa, as they condition long-term growth in the region. Donors also get involved in other projects with high social returns, such as microlending projects.

74. With $39.9 billion in official development assistance (ODA) in 2006,[36] sub-Saharan African countries are the main beneficiaries of international cooperation. In the least developed African countries, ODA usually accounts for a large share of the gross national income (GNI), representing, for example 47 per cent of the GNI of Burundi in 2005. ODA per capita for sub-Saharan Africa rose from $20 to $44 from 2000 to 2005.[2] Still, ODA flows are far below this level of developed-country commitments and the targets set at Monterrey in 2002.

75. African Governments and their partners have been eager to improve international cooperation as a means to tackle poverty and foster sustainable development on the continent. In many African countries, local administrations have substantially reinforced their international partnerships and improved the monitoring of projects funded by external donors. At the multilateral level, United Nations Member States have reiterated their willingness to reinforce their support for African countries through international cooperation, as recalled at the Group of Eight Gleneagles Summit in 2005. International donor organizations have improved and often simplified the rules related to the conditionality of development assistance in order to reduce the administrative burden on recipients.

D. Transfer and development of technology

76. The improvement of technology transfers to African countries has been recognized as a priority by the international community, as recalled by the Monterrey Consensus and the Johannesburg Plan of Implementation. Hence, various initiatives have been launched to reduce the technological gap between African countries and their developed partners. At the World Trade Organization, the Agreement on Trade-Related Aspects of Intellectual Property Rights has been

[35] They have privatized a large number of sensitive industries, such as telecommunications providers, attracting multinational firms to the continent. Thus, a total of 142 companies, valued at $13.7 billion, were privatized in Africa from 2000 to 2005, according to the World Bank.

[36] Most of the net ODA increase since 2000 has been attributable to debt relief (see http://www.oecd.org/dataoecd/7/20/39768315.pdf).

adjusted to make essential drugs available to developing countries at lower prices to address pandemics that devastate their populations.

77. Technology transfer helps developing countries to catch up with their developed partners. In a highly competitive world, African industries can remain cost-effective if their technology is up to date. In agriculture, the role of technology transfer is crucial, as many African countries have not achieved a technological revolution comparable to Asia's Green Revolution and need innovation to cope with their specific agro-climatic constraints. Similarly, research and the dissemination of technology greatly affect public health on the continent, notably through vaccines and medicines to treat tropical diseases.

78. Many African countries encounter difficulty in gaining access to technology. The price of patents, which is defined in countries where standards of living are much higher than in Africa, is often out of reach for African firms. Similarly, imported medicines in Africa are very costly, in contrast to the situation in countries such as India, where generic drugs are locally manufactured and sold at relatively low prices. In the same vein, the relatively limited presence of multinationals, through which significant technology transfers can occur, does not work in favour of technological dissemination in the region.

E. Regional integration

79. The international community has recognized the importance of regional trade for sustainable development (see Johannesburg Plan of Implementation, para. 67 (d)). Integration is expected to contribute to more sustainable development, based on economic growth, trade, cultural exchanges and peace, as recognized by the Lagos Plan of Action of 1980 and the Abuja Treaty of 1991. Through the creation of customs unions and, ultimately, the integration of monetary and industrial policies, African Governments aim to foster regional trade, stimulating regional competition and sparking the industrialization process. Regional integration is also expected to reduce the vulnerability of African economies to external shocks and optimize the management of resources. At the political level, regional institutions such as the African Union and the New Partnership for Africa's Development play an active role on the continent, framing a more sustainable environment for dialogue and cooperation.

80. Yet, despite the political support of African leaders, the regional integration process has not achieved the goals set at the beginning. Thus, the implementation of the Arusha Agreement has been significantly delayed. The integration of regional trade remains limited, as regional commerce accounts for a small share of total African trade. Furthermore, the regional economic communities are still hampered by insufficient resources and institutional inconsistency, with overlapping State memberships.

81. In order to reinvigorate the regional integration process, African Governments have taken various steps. They have initiated the rationalization of the work programmes of the regional economic communities. They have also reinforced the competencies of those communities, as evidenced in the trade negotiation area. In the security field, the role of the African Union has been strengthened with the Durban agreement, by which the Peace and Security Council was created in 2002,

and various peacekeeping missions have been deployed in the region (see sect. VIII above).

F. Sustainable consumption and production patterns

82. Following the decision at the World Summit on Sustainable Development in Johannesburg in 2002 to develop a 10-year framework of programmes for sustainable consumption and production and the launch of the Marrakesh Process in 2003, the African Ministerial Conference on Environment approved the African 10-Year Framework Programme on Sustainable Consumption and Production through its Dakar Declaration in March 2005. The programme identifies four priority areas, all of them considered in the context of the NEPAD Environmental Action Plan and regional poverty reduction priorities: energy, water, urban development (including municipal waste management) and industrial development. The programme is aimed at strengthening existing institutional structures to promote sustainable consumption and production and supporting specific related projects. To support implementation, the Marrakesh Task Force on Cooperation with Africa has been established.

X. Continuing challenges

83. African countries are facing multiple challenges that are difficult to manage simultaneously. As recalled during the Millennium Summit, the alleviation of poverty and gender imbalances and improvements in health and education are critical for African long-term development. However, the implementation of related policies is constrained by numerous impediments.

84. Besides pandemics such as HIV and malaria and widespread armed conflicts, African countries have to deal with economic structures that trap them in underdevelopment. Hence, the reinforcement of energy and transport infrastructures appears critical for the development of the region. Owing to low productivity, agriculture absorbs most resources available in the region, to the detriment of industries. Improving access to fertilizers, technologies and irrigation is needed to increase output and productivity. Diversification into higher-value crops and agro-industries can reduce the vulnerability of African economies to the erratic prices of commodities. Insufficient transparency and limited capacity in the management and investment of the revenues derived from natural resources remains a key obstacle on the road towards sustainable development in Africa.

85. The conservation of natural resources is another major challenge for Africa and the world as a whole. The protection of the environment does not necessarily combine easily with extreme poverty and demographic pressures. The rapid pace of deforestation often results from the food and energy needs of populations trying to survive. Awareness and education about the value and methods of sustainable natural resource management and of biodiversity conservation could be improved. As climate change will become a major obstacle on the road towards sustainable development, a major adaptation effort will be needed from many African countries, with support from the international community.